

ABSTRACT

Protein disulfide isomerase is a major component of *Conus* venom ducts. The invention relates to a protein disulfide isomerase (PDI) from *Conus* snails, a nucleic acid sequence encoding the *Conus* protein disulfide isomerase, and to methods for folding disulfide-rich peptides using a protein disulfide isomerase. Oxidative folding of conotoxin precursors, catalyzed by a PDI, was more efficient and decreased the number and concentration of transiently accumulated folding species. The PDI-assisted oxidative folding of conotoxins was also influenced by the propeptide relative to the mature peptide.

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